

AMENDMENTS TO THE CLAIMS

1 - 23. (Canceled)

24. (Currently Amended) A method of photokinetic transdermal delivery of a biologically active substance comprising:

preparing a solution comprising a the biologically active substance and a solvent;  
applying said solution to a cellular surface on the skin;  
illuminating said solution on said cellular surface with a pulsed incoherent light having a selected wavelength, pulse rate and duty cycle; and  
allowing said solution to permeate said cellular surface.

25. (Original) The method according to claim 24 wherein said solution further comprises a gelling agent.

26. (Original) The method according to claim 24 wherein said solution further comprises a photocatalytic agent.

27. (Previously Presented) The method according to claim 24 wherein said biologically active substance comprises a drug.

28. (Withdrawn) The method according to claim 24 wherein said biologically active substance comprises chemicals and said chemicals comprise a polar or a non-polar compound.

29. (Withdrawn) The method according to claim 28 wherein said polar compound is selected from the group consisting of theophylline-7 acetic acid, sodium ascorbyl phosphate, ascorbic acid, ascorbyl palmitate, pyridoxine, nicotinic acid and lidocaine.

30. (Withdrawn) The method according to claim 28 wherein said non-polar compound is selected from the group consisting of theobromine, theophylline, caffeine and nicotinamide.

31. (Currently Amended) The method according to claim 27 wherein said drug ~~comprises~~ is a cytotoxic drug.

32. (Withdrawn) The method according to claim 24 wherein said biologically active substance comprises a peptide and said peptide is selected from the group consisting of Gly-Tyr, Val-Tyr-Val, Tyr-Gly-Gly-Phe-Met (SEQ ID NO: 1), Tyr-Gly-Gly-Phe-Leu (SEQ ID NO: 2) and Asp-Arg-Val-Tyr-Ile-His-Pro-Phe (SEQ ID NO: 3).

33. (Withdrawn) The method according to claim 24 wherein said biologically active substance comprises a hormone and said hormone is selected from the group consisting of methionine enkephalin acetate, leucine enkephalin, angiotensin II acetate,  $\beta$ -estradiol, methyl testosterone and progesterone.

34. (Withdrawn) The method according to claim 24 wherein said biologically active substance comprises a protein and said protein is selected from the group consisting of enzymes, non-enzymes, antibodies and glycoproteins.

35. (Currently Amended) The method according to claim 24 25 wherein said gelling agent comprises a cellulose derivative.

36. (Previously Presented) The method according to claim 26 wherein said photocatalytic agent has a band gap energy of between about 2.9 eV and about 3.2 eV.

37. (Previously Presented) The method according to claim 26 wherein said photocatalytic agent is a rutile form of titanium dioxide.

38. (Previously Presented) The method according to claim 26 wherein said photocatalytic agent is an anatase form of titanium dioxide.

39. (Original) The method according to claim 24 wherein said solvent is an aqueous or an organic solvent.

40. (Original) The method according to claim 39 wherein said aqueous solvent is water.

41. (Original) The method according to claim 39 wherein said aqueous solvent is an aqueous solution of ethyl lactate or propylene glycol.

42. (Original) The method according to claim 24 wherein said cellular surface is an outer layer of a skin of a mammal.

43. (Original) The method according to claim 24 wherein said cellular surface is a cell membrane.

44. (Currently Amended) The method according to claim 24 wherein said pulsed incoherent light is selected from the group consisting of fluorescent, ultraviolet, visible, near infrared, LED (light emitting diode), and halogen light.

45. (Original) The method according to claim 44 wherein said fluorescent light has a wavelength range from about 260 nm to about 760 nm.

46. (Original) The method according to claim 44 wherein said ultraviolet light has a wavelength range from about 340 nm to about 900 nm.

47. (Original) The method according to claim 44 wherein said visible light has a wavelength range from about 340 nm to about 900 nm.

48. (Original) The method according to claim 44 wherein said near infrared light has a wavelength range from about 340 nm to about 900 nm.

49. (Original) The method according to claim 44 wherein said halogen light has a wavelength range from about 340 nm to about 900 nm.

50. (Original) The method according to claim 24 wherein said wavelength is selected from the group consisting of 350 nm, 390 nm, 405 nm and 450 nm.

51. (Original) The method according to claim 24 wherein said pulse rate is between about 1.7 cps and about 120 cps.

52. (Original) The method according to claim 51 wherein said pulse rate is between about 1.7 cps and about 80 cps.

53. (Original) The method according to claim 24 wherein said duty cycle is between about 50% and about 75%.

54. – 61. (Canceled)

62. (Withdrawn) The method according to claim 24 wherein said biologically active substance comprises a chemical.

63. (Withdrawn) The method according to claim 24 wherein said biologically active substance comprises an antibiotic.

64. (Withdrawn) The method according to claim 24 wherein said biologically active substance comprises a hormone.

65. (Withdrawn) The method according to claim 24 wherein said biologically active substance comprises a DNA.

66. (Withdrawn) The method according to claim 24 wherein said biologically active substance comprises an RNA.

67. (Withdrawn) The method according to claim 27 wherein said drug comprises an analgesic.

68. (Withdrawn) The method according to claim 27 wherein said drug comprises an anaesthetic.

69. (Withdrawn) The method according to claim 27 wherein said drug comprises an antacid.

70. (Withdrawn) The method according to claim 27 wherein said drug comprises an antianxiety drugs.

71. (Withdrawn) The method according to claim 27 wherein said drug comprises an antiarrhythmics.

72. (Withdrawn) The method according to claim 27 wherein said drug comprises an antibacterial.

73. (Withdrawn) The method according to claim 27 wherein said drug comprises an antibiotic.

74. (Withdrawn) The method according to claim 27 wherein said drug comprises an anticoagulant and thrombolytic.

75. (Withdrawn) The method according to claim 27 wherein said drug comprises an anticonvulsants.

76. (Withdrawn) The method according to claim 27 wherein said drug comprises an antidiarrheals.

77. (Withdrawn) The method according to claim 27 wherein said drug comprises an antiviral.

78. (Withdrawn) The method according to claim 27 wherein said drug comprises a barbiturates.

79. (Withdrawn) The method according to claim 27 wherein said drug comprises a vitamin.

80. (Currently Amended) The method according to claim 24 25 wherein said gelling agent comprises a hydroxyethyl cellulose.

81. (Withdrawn) The method according to claim 24, wherein said gelling agent comprises a pectines.

82. (Withdrawn) The method according to claim 24, wherein said gelling agent comprises an agar.

83. (Withdrawn) The method according to claim 24, wherein said gelling agent comprises an alginic acid and its salts.

84. (Withdrawn) The method according to claim 24, wherein said gelling agent comprises a guar gum.

85. (Withdrawn) The method according to claim 24, wherein said gelling agent comprises a polyvinyl alcohol.

86. (Withdrawn) The method according to claim 24, wherein said gelling agent comprises a polyethylene oxide.

87. (Withdrawn) The method according to claim 24, wherein said gelling agent comprises a propylene carbonate.

88. (Withdrawn) The method according to claim 24, wherein said gelling agent comprises a polyethylene glycol.

89. (Withdrawn) The method according to claim 24, wherein said gelling agent comprises a hexylene glycol sodium carboxymethylcellulose.

90. (Withdrawn) The method according to claim 24, wherein said gelling agent comprises a polyacrylates.

91. (Withdrawn) The method according to claim 24, wherein said gelling agent comprises a polyoxyethylene-polyoxypropylene.

92. (Withdrawn) The method according to claim 24, wherein said gelling agent comprises block copolymers.

93. (Withdrawn) The method according to claim 24, wherein said gelling agent comprises a pluronic.

94. (Withdrawn) The method according to claim 24, wherein said gelling agent comprises a wood wax alcohol.

95. (Withdrawn) The method according to claim 24, wherein said gelling agent comprises a tyloxapol.

96. (Withdrawn) The method according to claim 24, wherein said biologically active substance comprises a peptide.

97. (New) The method according to claim 24 wherein said biologically active substance is selected from the group consisting of a drug, a chemical, an antibody, a peptide, a hormone, a protein, a DNA, an RNA, and a mixture thereof.

98. (New) The method according to claim 39 wherein said aqueous solvent is an aqueous solution of ethyl lactate and propylene glycol.